Testing possible interventions

Do providers prescribe less antibiotics to patients expressing a reluctance to unnecessary treatment?

In the preliminary qualitative research, providers often mentioned the perceived or explicit demand from patients as a reason for prescribing antibiotics. In the standardised patients (SP) study, explicit demand of patients cannot be blamed for the high level of unnecessary prescribing, since the SPs did not request antibiotics.

However, doctors might still perceive that patients want antibiotics. This issue is widely mentioned in the literature, and as a result, large-scale awareness campaigns educating the public about antibiotics misuse are often recommended as a way to reduce unnecessary prescribing. This study was designed to test the potential impact of such initiative on provider prescribing.

HOW WAS THE STUDY DONE?

A very effective information campaign would make patients aware of the detrimental effects of antibiotics misuse, and more reluctant to being given antibiotics, unless clinically indicated.

To test the potential effects of such a policy, we developed a new scenario in which we changed the attitude of the SP towards antibiotics. After describing his/her main complaint, this 'reluctant' patient was trained to tell the doctor: *"I do not want antibiotics, unless you think it is really necessary"*. A total of 199 visits were carried out by such 'reluctant' patients, half in the public sector and half in the private sector, 5 to 10 days apart from the visits carried out by 'normal' standardised patients to the same providers.

WHAT DID THE STUDY FIND?

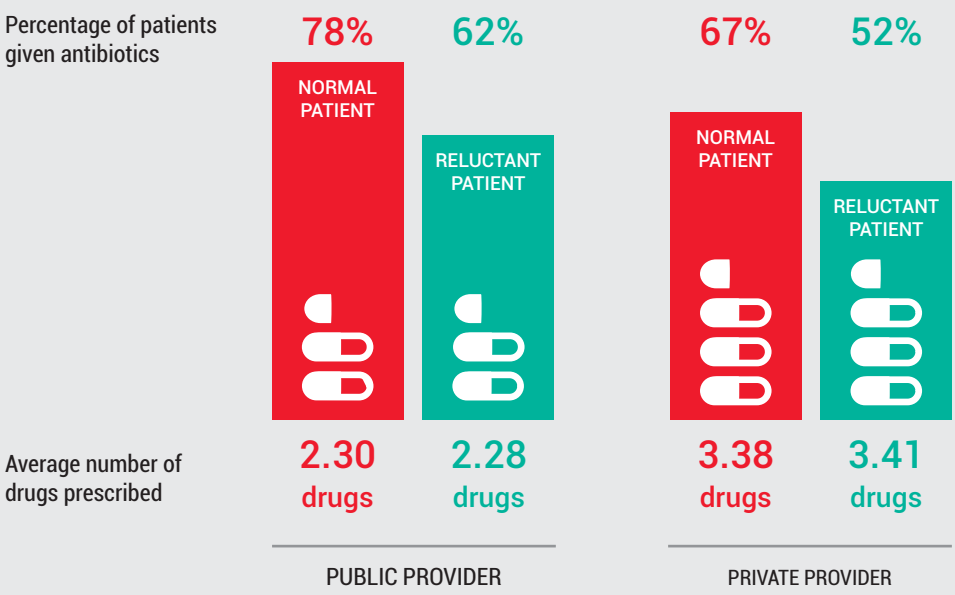
The results are encouraging, as unnecessary prescription of antibiotics was reduced from 78% to 62% in the public sector, and from 67% to 52% in the private sector (see Figure). Yet, over half of the patients still received antibiotics. Moreover, this reduction in unnecessary prescribing did not result in fewer drugs prescribed: on average public providers still prescribed about 2.3 drugs, and private GPs 3.4 drugs (see Figure).

As a result, the cost for patients in the private sector remained the same. In the public sector, the cost of medicines dispensed slightly increased despite the reduction in unnecessary antibiotic prescribing.

WHAT ARE THE CONCLUSIONS OF THE STUDY?

The results suggest that a public awareness campaign would not be a silver bullet to reduce unnecessary prescription of antibiotics. Even if it was so successful that all patients adopted a decisively reluctant attitude, more than half of those suffering from viral bronchitis would still be given antibiotics.

Figure: Rates of unnecessary antibiotic prescribing



Testing possible interventions

Do providers prescribe less unnecessary antibiotics when they face some cost for prescribing?

A lot of the health economic literature on over-treatment focuses on the reasons behind the providers' prescribing decisions and, in particular, the role of the financial incentives they face.

At one extreme, over-prescribing is likely to occur when providers gain financially from prescribing drugs. However, this is not the case in South Africa, either in the public or private sector. Yet, while South African providers do not financially benefit from prescribing unnecessary medicines, they generally do not incur a cost either. The actual monetary cost of unnecessary antibiotics falls on the private patient or the public health system, whereas the future clinical and economic cost of increased antibiotic resistance falls on society in general.

To reduce over-prescribing, economists would therefore recommend altering the incentives of the provider, so that they internalise the cost of prescribing (a 'rationing' incentive). This study was designed to test the likely effect of such policy.

HOW WAS THE STUDY DONE?

Such 'rationing' incentives already exist for some doctors in South Africa: dispensing GPs charge a flat consultation fee which includes both the consultation itself and basic drugs dispensed. Since dispensed drugs reduce their overall profit, they face a 'rationing' incentive that reduces the likelihood of prescribing unnecessary drugs.

Because these two groups of doctors might be very different (e.g. in terms of geographical location, clientele, fees charged), comparing the prescribing practices of dispensing GPs with those of non-dispensing doctors would not tell us whether differences in prescribing patterns come from the different incentives faced or from these other factors.

To understand whether the incentive faced by dispensing doctors reduces unnecessary prescribing, we use the standardised patient (SP) method to vary the incentives faced by a group of 120 dispensing GPs.

Each GP received two SPs, in a random order: one who acted normally and one who asked for a prescription instead of the drugs dispensed. In other words, the dispensing GP faced a rationing incentive with the first patient, as the drugs dispensed reduce their profit, but not with the patient who asks for a separate script.

WHAT DID THE STUDY FIND?

We expected antibiotic prescription to be lower in the first group of patients. However, we do not find any supporting evidence for this hypothesis. The prescription rate of unnecessary antibiotics does not change at all, whether the costs of the drugs are deducted from the GPs' profit or not.

Even though these costs do not seem to change antibiotic prescribing, they change the quantity and costs of drugs prescribed. When they do not face prescribing costs, GPs tend to prescribe slightly more drugs (nearly 4.0 drugs instead of 3.7), and more expensive ones, including more expensive antibiotics. The drugs prescribed cost R90 more than those dispensed (an increase of 85%), and the antibiotics prescribed cost R28 more than those dispensed (an increase of 72%).

WHAT ARE THE CONCLUSIONS OF THE STUDY?

These results are not encouraging for policies relying on incentives to limit the prevalence of over-prescribing of antibiotics, although they show that they would reduce the monetary cost of unnecessary prescribing.

Further research is needed to determine if those results can be generalised beyond dispensing doctors.

Changes observed when GPs no longer bear the cost of prescribing

Change in ...	
... the percentage of antibiotic prescription	+ 0.001
... the number of drugs prescribed	+ 0.23
... the cost of drugs	+ R91.84